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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,938	11/30/2001	Masahiko Takeuchi	1752-0153P	4014

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EXAMINER
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HAMILTON, CYNTHIA

ART UNIT	PAPER NUMBER
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1752

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DATE MAILED: 03/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/996,938

Applicant(s)

TAKEUCHI ET AL.

Examiner

Cynthia Hamilton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 2/26/02 and 12-21- 2001 .
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) 4 and 5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-5 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ .
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_ .
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_ .

### DETAILED ACTION

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-3, drawn to a resin composition, classified in class 430, subclass 285.1.
  - II. Claims 4-5, drawn to a printed wiring board and a cured resin, classified in class 428, subclass 209.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant case, the intermediate product is deemed to be useful as liquid crystal device or solar cell and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation between Mr. Garth Dahlen and Examiner Ling X. Xu on December 2, 2002 a provisional election was made with traverse to prosecute the invention of

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Group I, claims 1-3. Affirmation of this election must be made by applicant in replying to this Office action. Claims 4-5 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

6. The disclosure is objected to because of the following informalities:

On page 8, line 6, "hHydroxyethyl" needs to be replaced by "hydroxyethyl".

On page 9, line 4, "followig" needs to be replaced with "following".

Appropriate correction is required.

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Component (B) is "alkylene oxide-modified product of at least one acrylate selected from (meth)acrylates or oligomers thereof". This (B) is not defined by applicants.

Applicants on page 2 refer to ethylene oxide modified trimethylolpropane triacrylate form JP 10-

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161306A. There is no disclosure in the specification as to what these compounds are. Starting on the bottom of page 7, applicants disclose "an explanation" of (B) which lists a series of (meth)acrylates then on page 10 discloses these compounds are used as raw material for the (B). (B) "can be obtained by treating any of the aforementioned (meth)acrylates or oligomers thereof with an alkylene oxide. This is "can" does not limit (B). The "alkylene oxide-modified product of at least one acrylate selected from (meth)acrylates or oligomers thereof" is a product by process kind of language or is it a reference to the structure that would be present that represents the final product of such a modification. The examiner is unclear if a compound like tetrabromobisphenol A diethoxy diacrylate compound count as an "alkylene oxide-modified product of at least one acrylate selected from (meth)acrylates or oligomers thereof" because of the presence of diethoxy groups? Such a compound is "modified" but is not obtained by reacting an acrylate with an alkylene oxide. However, there is a modification from a tetrabromobisphenol A diacrylate compound. Thus, the terminology used by applicants is too vague to allow the examiner to determine if such compounds as ethylene glycol di(meth) acrylate which has the same structure if made from ethylene oxide or ethylene glycol. The structure is the same. Grant et al defines alkylene oxide under "alkylene" as "a. oxides" as (1) alcohol ethers. The aliphatic compounds that contain both the primary alcohol and the ether groups; as diethylene. (2) Epihydrins. Alicyclic compounds which are the ethers of glycols; as, ethylene oxide." The examiner has taken the broadest reasonable view of this term in view of no explicit definition being given by applicants in their specification.

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al (5,721,076) as evidenced by Grant et al. The compositions of Watanabe et al teach all the instant composition with the exception of using instant component (B) alkylene oxide-modified product of at least one acrylate selected from (meth)acrylates or oligomers thereof. However, in

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col. 10, lines 45-65 of Watanabe et al, the optional use of polymerizable monomers and oligomers to act as a viscosity modifier is taught of which ethylene glycol di(meth)acrylate, diethylene glycol di(meth)acrylate, triethylene glycol di(meth)acrylate, tetraethylene glycol di(meth)acrylate, and tetramethylene glycol di(meth) acrylate are listed as choices among less than 20 choices. These monomers all have an alkylene oxide present as defined by Grant et al and thus are (meth) acrylates so modified. With respect to instant claims 1-3, the use of any of these monomers for the reason of adjusting viscosity as taught by Watanabe et al would have been prima facie obvious. In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed.Cir. 1990). The ranges set forth by Watanabe et al for their components overlap those of the instant compositions. In Watanabe et al, see particularly the Abstract, and col. 3-8.

13. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al (5,721,076) in view of Cohen (3,380,831). The compositions of Watanabe et al teach all the instant composition with the exception of using instant component (B) alkylene oxide-modified product of at least one acrylate selected from (meth)acrylates or oligomers thereof. However, in col. 10, lines 45-65 of Watanabe et al, the optional use of polymerizable monomers and oligomers to act as a viscosity modifier. One such monomer given for this is trimethylolpropane tri(meth)acrylate. Cohen (3,380,831) teach that the use of the polyoxyethytrimethanolpropane triacrylates over the trimethanolpropane triacrylates avoids some problem with toxicity in col. 1 and 2. Thus, with respect to instant claims 1-3, the exchange of the

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polyoxyethyltrimethanolpropane triacrylates and methacrylates for the trimethylolpropane tri(meth)acrylate to reduce toxicity problems would have been prima facie obvious.

14. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Kushi et al (4,970,135). Example 1 of Kushi et al appears to anticipate the instant invention wherein instant (A) is the reaction product of bisphenol A diglycidyl ether/acrylic acid /maleic anhydride which appears to be made in the same manner as (A) with C being  $-C(CH_3)_2-$  and (B) is tetrabromobisphenol A diethoxy diacrylate and (E) is neopentyl glycol diacrylate. These components are present in the amounts that fall within the ranges claimed by applicants.

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Thommes (3,255,0040) teach in col. 2 the use of alkylene glycol monomers act as plasticizer for thermoplastic polymer in photopolymerizable materials. Kubo et al (6,465,540 B1) teach in col. 4 the use of oxyalkylene units to a bisphenol skeleton give heat resistance to solder in a photocurable composition.

16. The information disclosure statement filed February 26, 2002 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. Those references for which no copy was presented were struck from the list as being not considered. They are three documents for which only English abstracts were presented. The actual documents were not presented as alleged by applicants in their statement. The examiner considered the abstracts and wrote them into the list given by applicants.

*Any inquiry concerning this communication or earlier communications from the examiner should be directed to Primary Examiner Cynthia Hamilton whose telephone number is (703) 308-3626. The examiner can normally be reached on Monday-Friday, 9:30 am to 5:00 pm.*

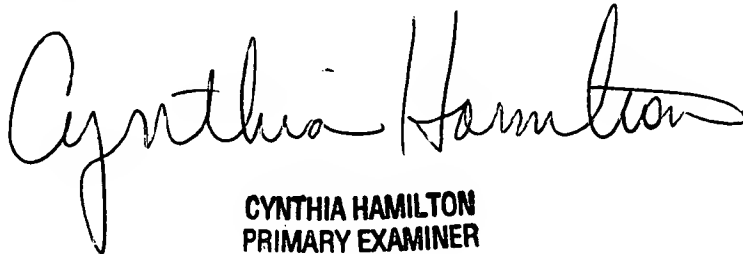


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*If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Baxter can be reached on (703) 308-2303. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.*

*Any inquiry of papers not received regarding this communication or earlier communications, or of a general nature or relating to the status of this application or proceeding should be directed should be directed to the Customer Service Center of Technology Center 1700 whose telephone number is (703) 306-5665.*

Cynthia Hamilton  
March 23, 2003

A handwritten signature in cursive script that reads "Cynthia Hamilton". The signature is written in black ink and is positioned above the printed name and title.

**CYNTHIA HAMILTON  
PRIMARY EXAMINER**